

ABSTRACT OF THE DISCLOSURE

A methanol reforming catalyst that generates a reformed gas containing hydrogen by reforming methanol under the presence of oxygen and steam, comprises a catalytic component I containing Cu oxide and Zn oxide, and a catalytic component II containing metal oxide and one of Pt and Pd. Also, another methanol reforming catalyst comprises a catalytic component I containing Cu oxide and Zn oxide, a catalytic component IIA containing first metal oxide and a noble metal, and a catalytic component IIB containing second metal oxide and one of Pt and Pd. The second metal oxide forms an alloy more easily than the first metal oxide. The auto-thermal reforming process can be stably accelerated in the methanol reforming reaction using these catalysts. Also, there are provided a reformer, a reforming apparatus, and a fuel cell system employing these methanol catalysts. Since a heater or a reducing apparatus can be omitted in these apparatuses, etc., sizes of these apparatuses, etc. become small and thus these apparatuses, etc. are suitable for the installing into the mobile body.